

Welcome to the SR 1 Widening, Road A to Tybouts Corner

**Virtual Public Workshop
October 27, 2021**

Agenda:

- **Registration/Sign-in**
- **Presentation**
- **Question & Answer Session**

The Virtual Public Workshop is being recorded and will be available on the DeIDOT project webpage.

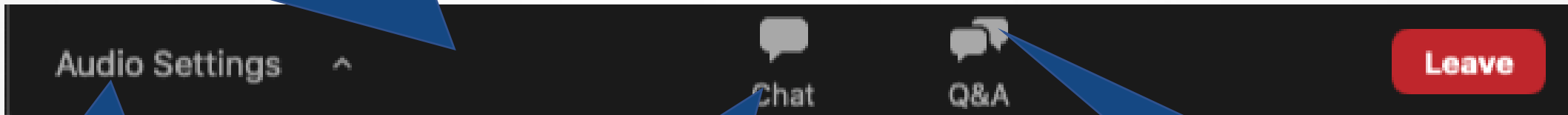
Virtual Workshop Housekeeping

Some helpful hints for tonight's virtual workshop:

Zoom Webinar Menu Bar

- Appears at the bottom of the Zoom window once the workshop begins.
- Don't see it? Move your mouse slightly and the bar will re-appear.
- The bar disappears after a few seconds when in full-screen mode.

*** Note that you are muted and without video by default.**



Adjust Audio Settings

- Click the upward arrow (^) next to "Audio Settings" to change your computer's audio preferences
- For example, change from headphones to computer speaker.

Chat

- Use the **Chat** box to reach the host if you are having problems during the presentation, such as problems with audio.
- The host will monitor these comments throughout the Workshop.

Q&A

- Throughout the Presentation and during the Question & Answer Session, use the **Q&A** feature to ask questions to the panelists.
- The host and panelists will monitor these questions and will respond during the Question & Answer Session.

Ways to Comment

We are committed to keeping you informed about this important project

Submit your comments by November 26, 2021, by:

Email:

dotpublic@delaware.gov

or

Mail:

DeIDOT Community Relations
P.O. Box 778
Dover, DE 19903

Visit the project webpage:

- deldot.gov/projects
- Scroll down and click **SR 1 Corridor**
- Click **Active Projects**
- Click **SR 1 Widening, SR 273 to the Roth Bridge**

Meet the Team

**Matt Vincent,
DeIDOT**

**Breanna Kovach,
DeIDOT**

**Pat Martino,
RK&K**

**Carey Webb,
RK&K**

Meet the team!

**Erron Ramsey,
RK&K**

**Kevin Hughes,
RK&K**

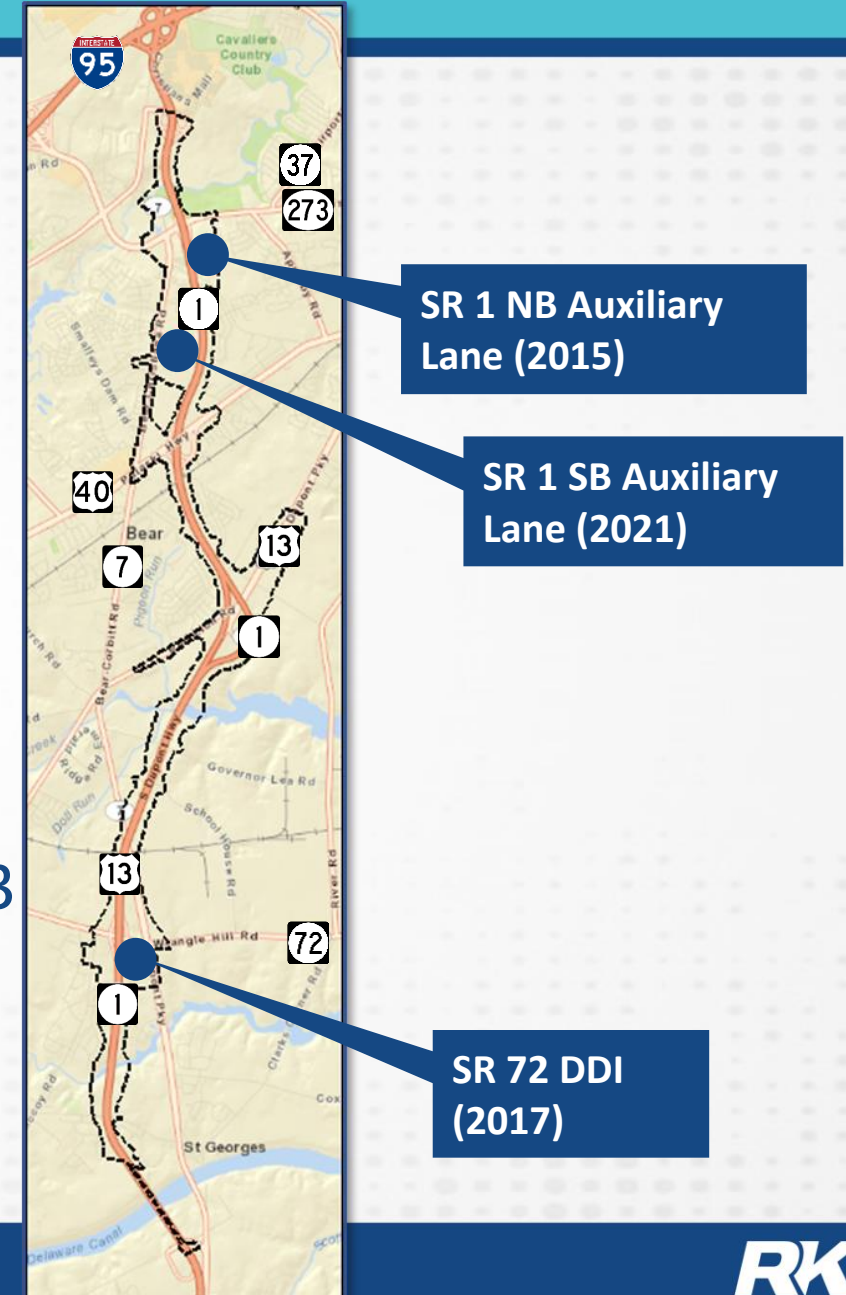
**B.J. Song,
RK&K**

**Jim Burnett,
RK&K**

Overview of Presentation

- Overview and Study Area
- Purpose and Need
- Alternatives Development Process
- Comparison of Impacts
- Preferred Alternative – Modified Alternative 3
- Environmental Studies Updates
- Noise Analysis
- Visual Mitigation
- Schedule and Next Steps
- Ways to Comment

- SR 1 Draft Environmental Document (2012-2014)
 - Widening: Road A to the Roth Bridge
 - No Resolution on SR 273, Newtown Ramps
 - Adjacent landowner and community concerns
 - No decision on Preferred Alternative
 - No Environmental Document was completed
- Three Break Out Projects for Interim Improvements
- The study area extends approximately 3.4 miles from Road A at the SR 7 Interchange to just north of Tybouts Interchange at US 13 and includes the SR 273 Interchange



Purpose

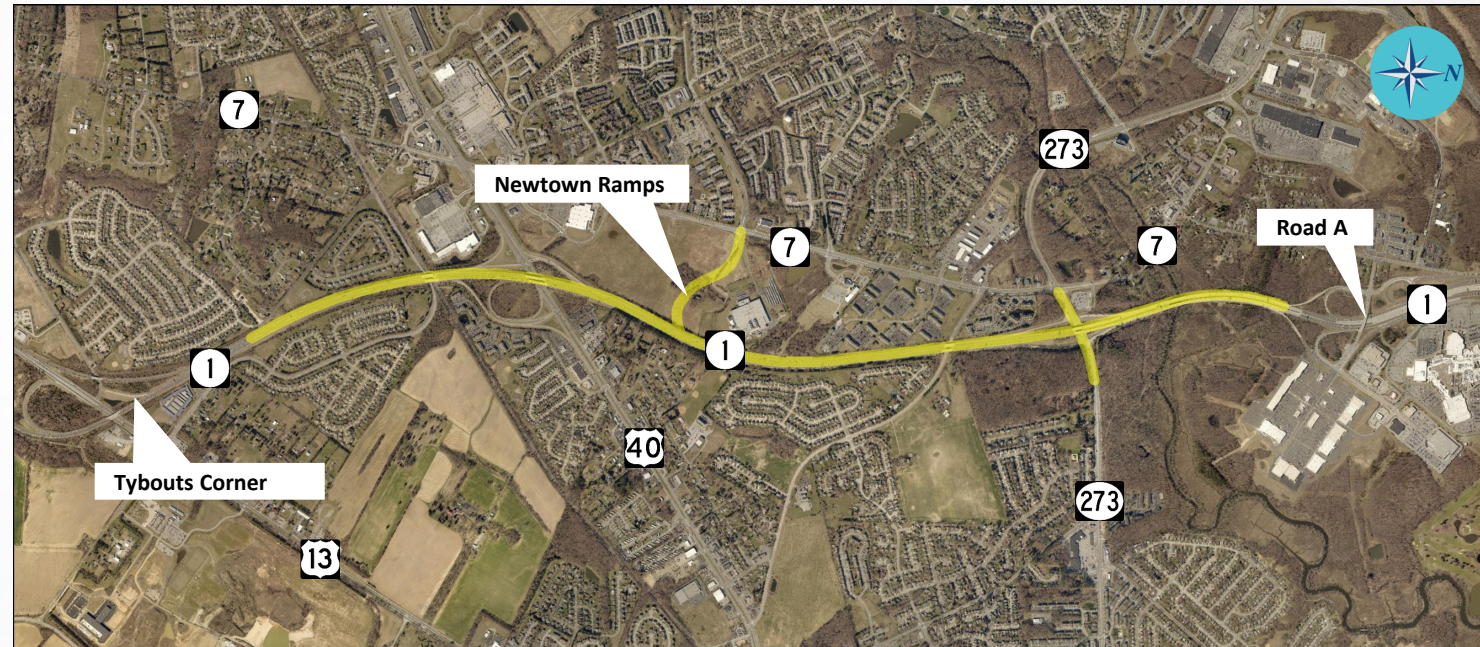
- Address existing and future traffic congestion on SR 1 between Road A and the Tybouts Corner Interchange during AM and PM peak hours

Needs

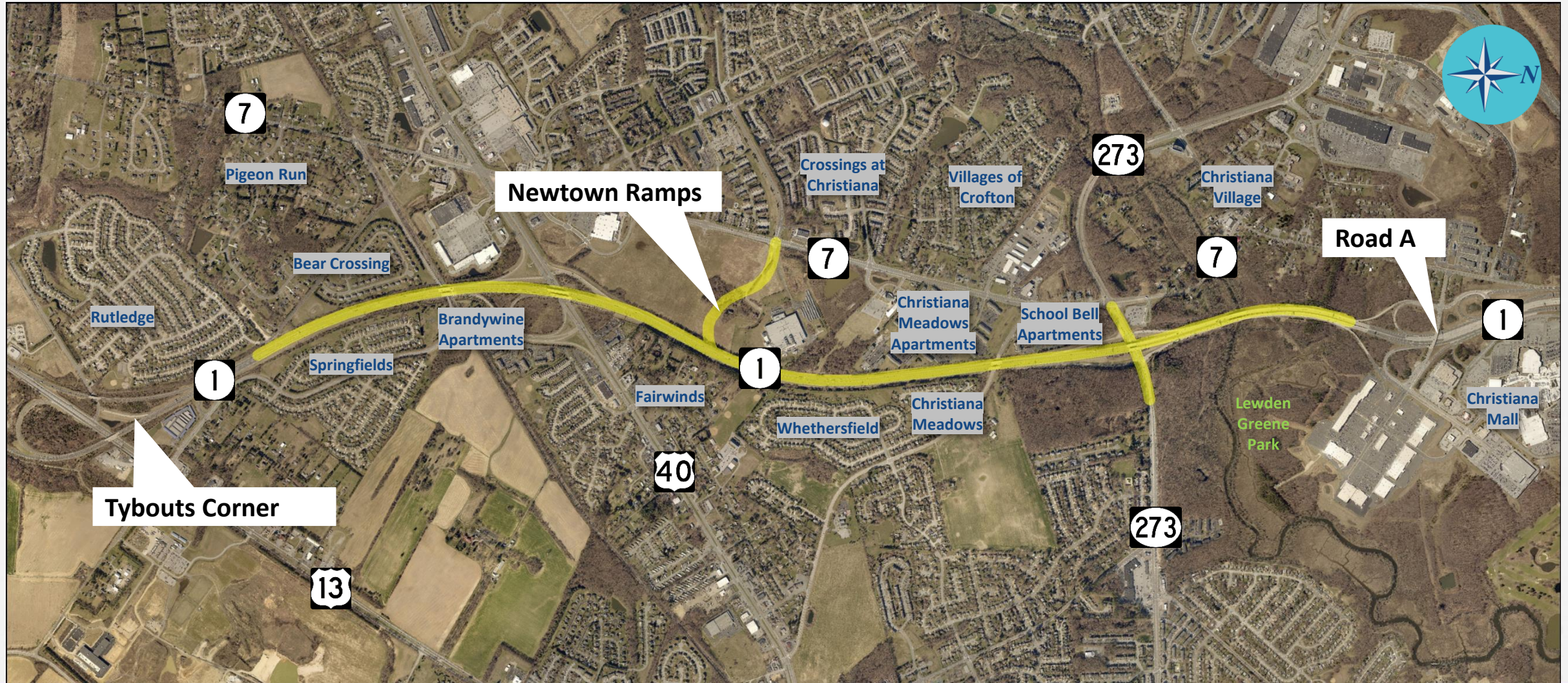
- Accommodate existing and future traffic
- Improve travel time by eliminating SR1 bottlenecks
- Improve traffic operations and safety at the SR 1 / SR 273 Interchange

What improvements does the Project Include/ Not Include?

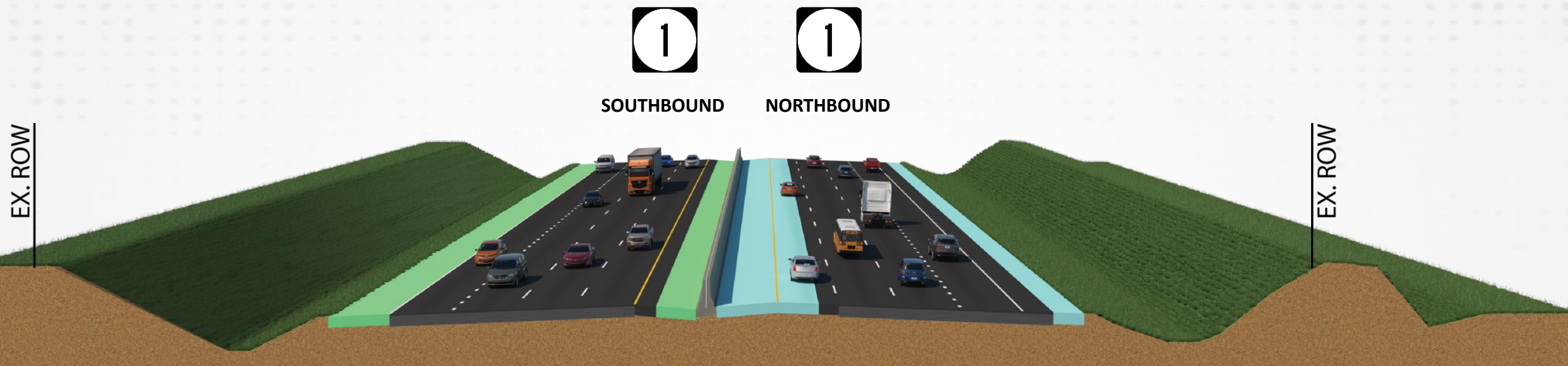
- Project improvements include:
 - Widening of SR 1 from Road A (near the mall) to just north of the Tybouts Corner Interchange
 - Construction of the new Newtown Road Ramps
 - Reconstruction of the SR 1/SR 273 Interchange
- Project does not include:
 - Reconstruction of the Tybouts Corner Interchange
 - To be addressed as a separate project in the future
 - A public workshop will be held in early 2022



SR 1 Widening



SR 1 Widening Typical Section



SR 1 Looking Northbound

Newtown Ramps



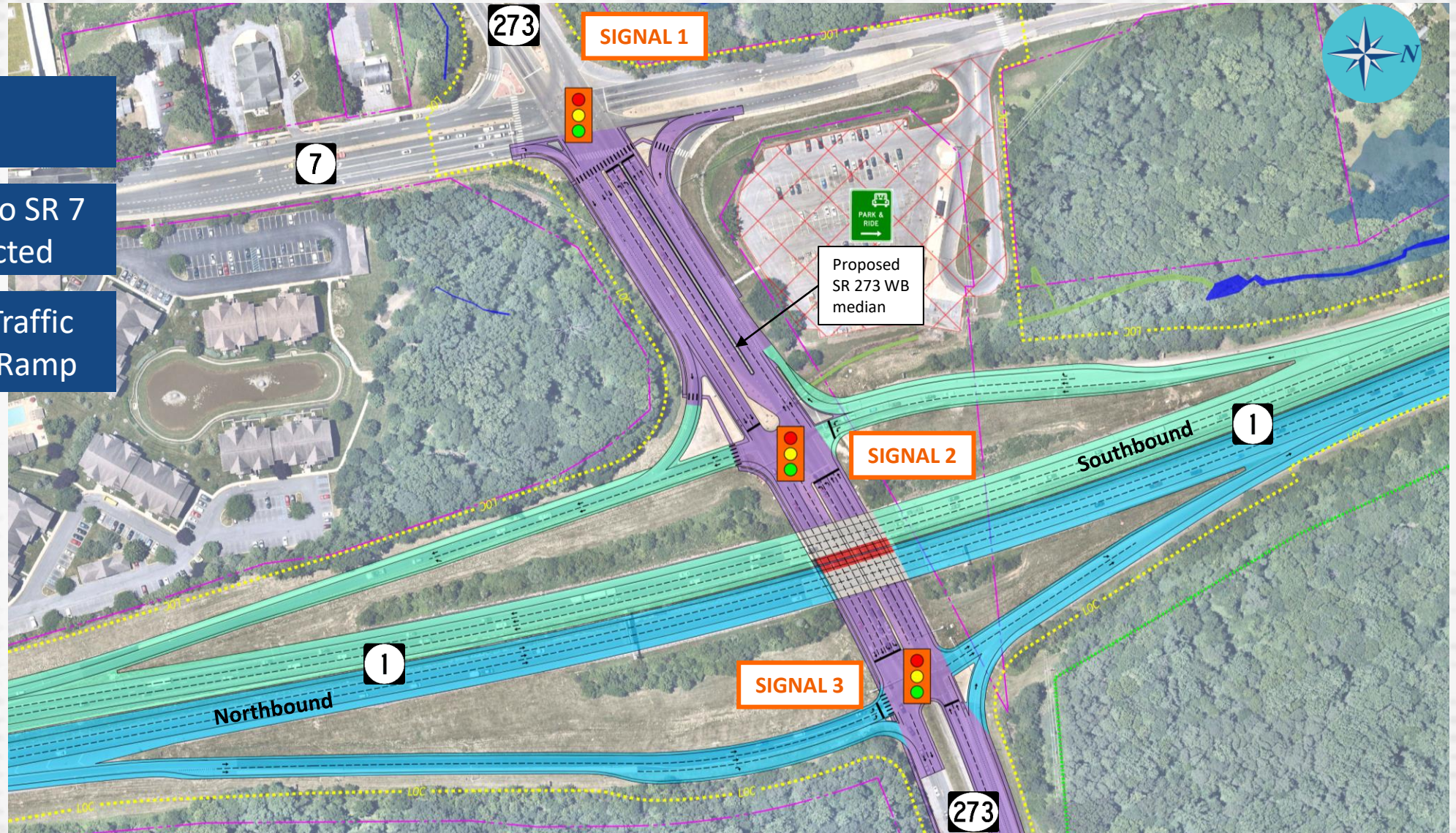
No Build Alternative - SR 1 & SR 273 Interchange



Same as Existing Interchange

SR 1 Southbound to SR 7
Southbound restricted

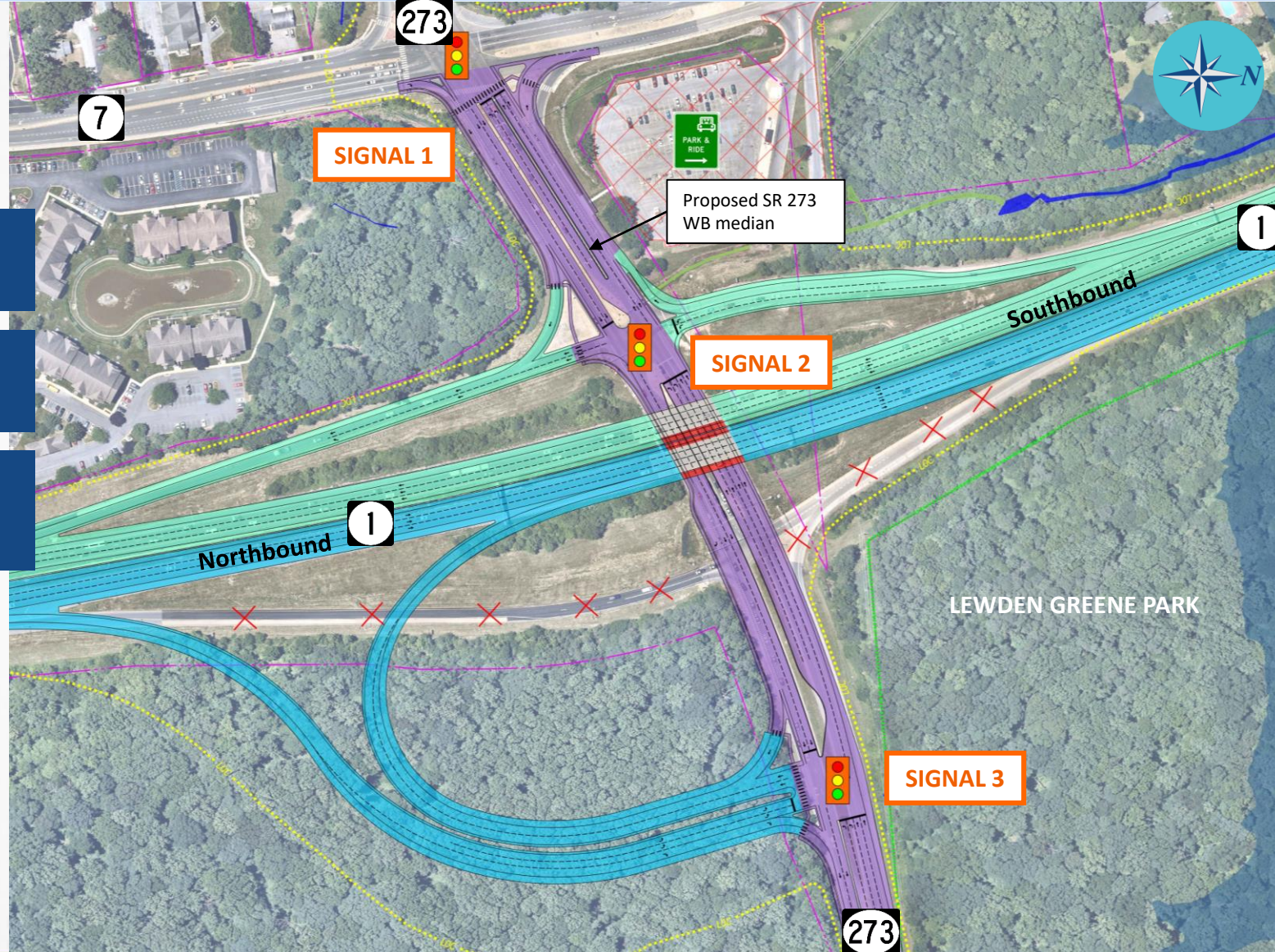
SR 7 Southbound Traffic
will use Newtown Ramp



Modifies existing interchange

SR 1 Southbound to SR 7
Southbound restricted

SR 7 Southbound Traffic will
use Newtown Ramp



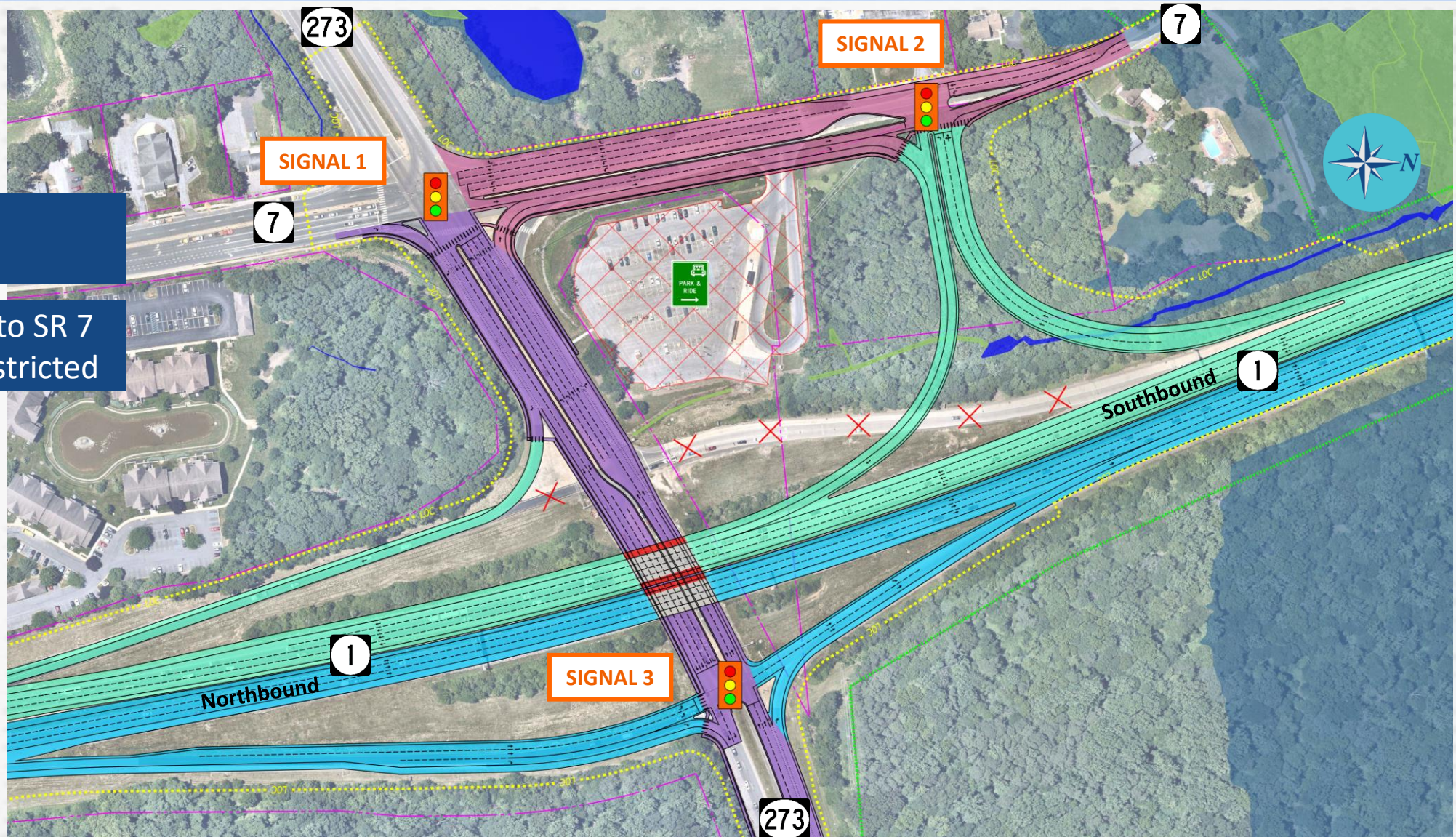


**SR 7 Southbound Traffic
will use Newtown Ramp**

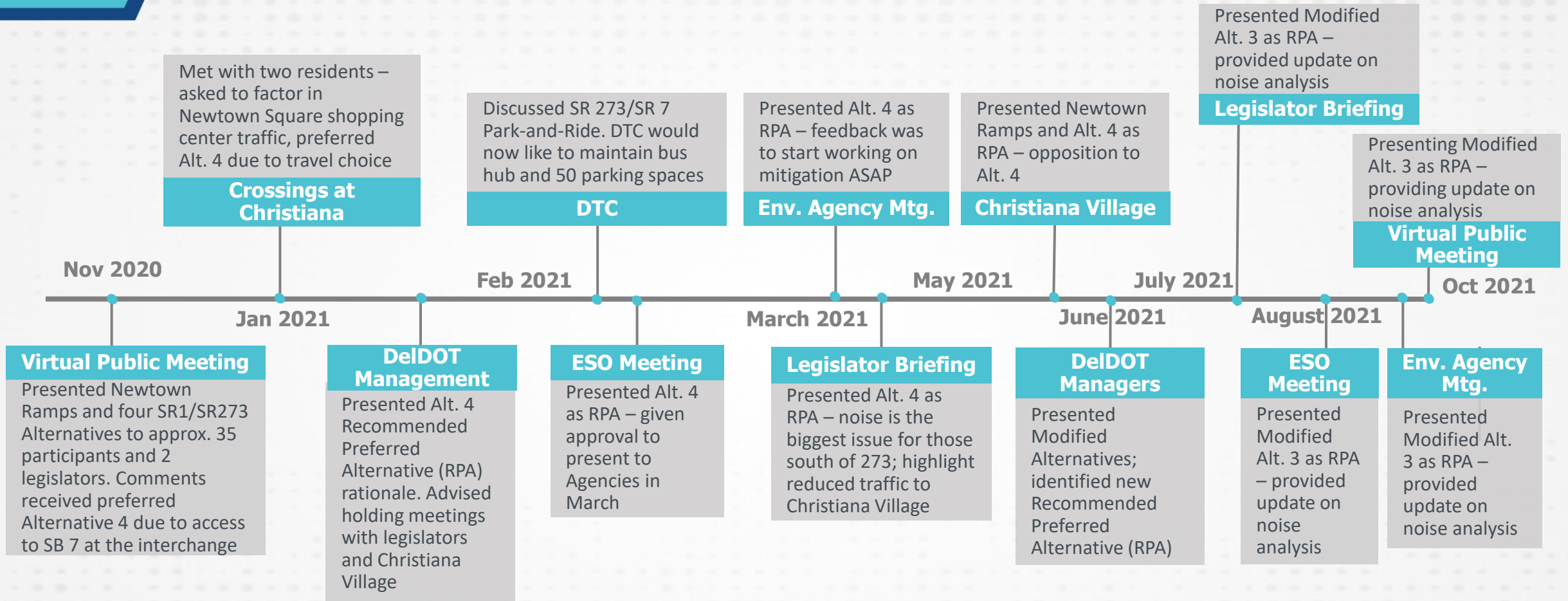


Modifies existing interchange

SR 1 Southbound to SR 7
Southbound unrestricted



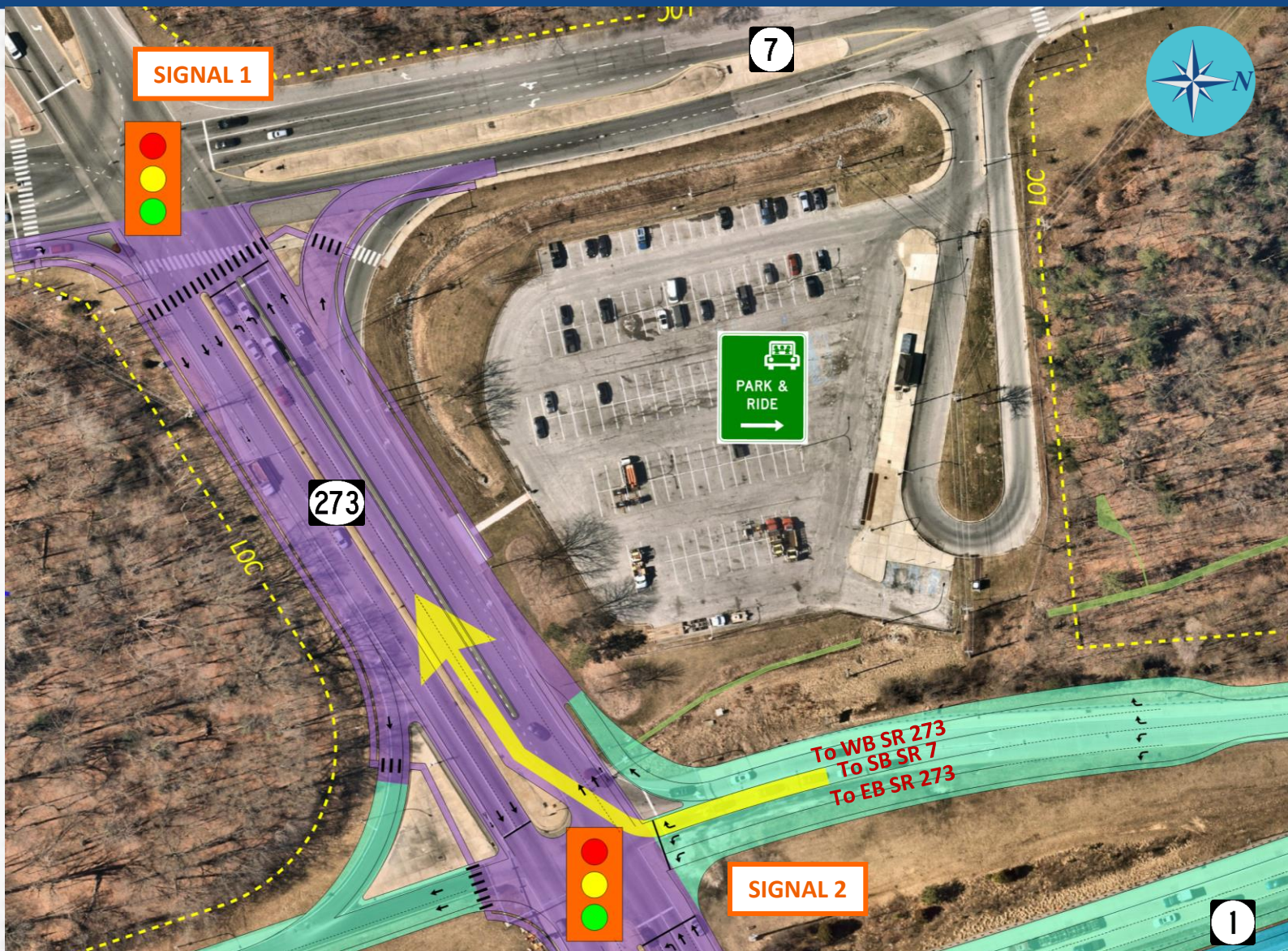
Alternatives Development Process



Environmental Agency Meetings are coordinated with EPA, USACE, USFWS, SHPO, and FHWA.

Build Alternatives - SR 1 & SR 273 Interchange

Modified Alternatives 1, 2 & 3 : Channelized / Restricted Movement



Alternatives Impact Comparison Matrix

Criteria	No Build Alternative	Modified Alternative 1: Tight Diamond	Modified Alternative 2: Southeast Loop	Modified Alternative 3: Single Point Urban Interchange (SPUI)	Modified Alternative 4: Offset Diamond
Improve Travel Times on SR 1 2050 SB PM Peak through Study Limit (4 miles) 2050 NB AM Peak through Study Limit (4 miles)	No 14.4 minutes 10.2 minutes	Yes 5.2 minutes 4.2 minutes			
Improve Traffic Operations on SR 273 Number of Intersections on 273 Spacing Between Ramp Signals on 273 PM Travel Time, Christina River to Wedgefield Drive (Original Travel Time)	No 3 intersections ~300' 5.4 minutes	Yes 3 intersections ~300' 3.1 minutes (2.1 minutes)	Yes 3 intersections ~840' 2.8 minutes (2.2 minutes)	Yes 2 intersections Both Ramps utilize the same signal 2.3 minutes (2.0 minutes)	Yes 2 intersections Ramp signals on separate roadways 2.0 minutes
2050 Intersection Level of Service I. SR 273 at SR 7 II. SR 273 at the SB SR 1 Ramps (SR 7 at the SB SR 1 Ramps for Alternative 4) III. SR 273 at the NB SR 1 Ramps	<u>AM</u> <u>PM</u> D E B D C C	<u>AM</u> <u>PM</u> C D B C B B	<u>AM</u> <u>PM</u> C D B B C C	<u>AM</u> <u>PM</u> C C C* C* *Combined SB and NB intersection	<u>AM</u> <u>PM</u> C C B B B C
DTC Park & Ride Lot Access	Existing remains	Existing remains	Existing remains	Existing remains	New Entrance/Exit Required
Public Feedback (To date)	N/A	No negative feedback – Modified Alt 1 addresses concern of only 1 option access SR 7 south of 273 (Newtown Ramp)	No negative feedback – Modified Alt 2 addresses concern of only 1 option access SR 7 south of 273 (Newtown Ramp)	No negative feedback – Modified Alt 3 addresses concern of only 1 option access SR 7 south of 273 (Newtown Ramp)	Positive feedback at Nov. Meeting – provides driver choice; Christiana Village voiced opposition in May
Access from SR 1 SB to SR 7 SB at SR 273/SR 7 Intersection	Yes	Yes	Yes	Yes	Yes
Construction: Traffic Impacts and Complexity	N/A	Limited – least impact on SR 1, ramps, SR 273	Moderate – ramp relocations, extended impacts on SR 273	Major – complex staging on SR 1, extended impacts on SR 273	Moderate – ramp relocations, extended impacts on SR 7
Number of Parcels Impacted (Count)	0	14	16	14	18
Right-of-Way Needed (Acres)	0	19.6	29.9	19.7	22.9
Tree Canopy (Acres)	0	6.2	17.3	6.3	11.4
100-Year Floodplain (Acres)	0	2.7	2.7	2.7	3.3
Wetlands (Acres)	0	6.0	6.5	6.0	6.2
Waters (Linear Feet)	0	567.3	566.9	566.9	1242.5
CTP Cost Estimate (in Millions)	N/A	\$175 M	\$190 M	\$200 M	\$190 M

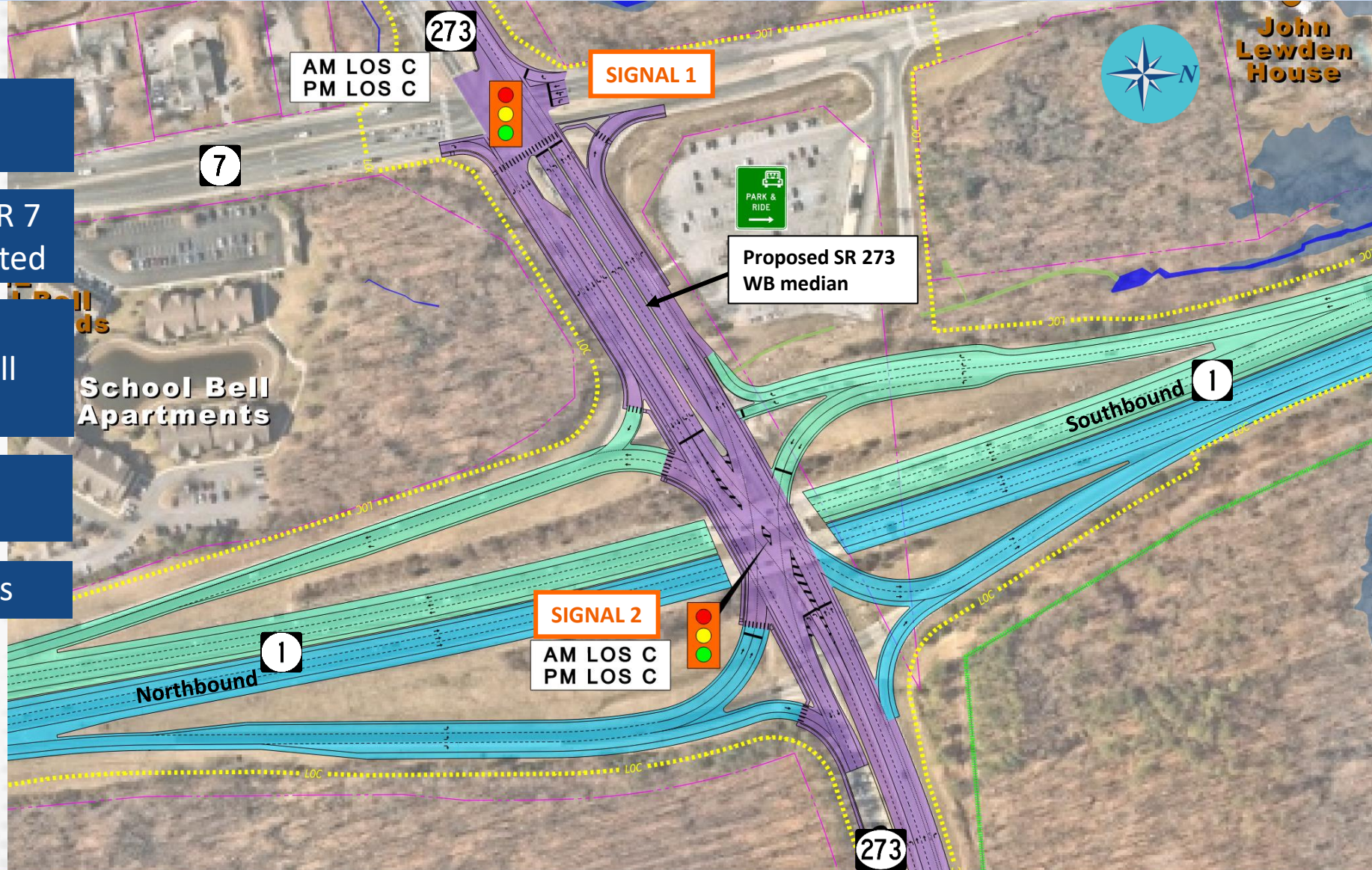
Modifies existing interchange

SR 1 Southbound to SR 7
Southbound unrestricted

Assumes 50% of SR 7
Southbound Traffic will
use Newtown Ramp

Removes one SR 273
traffic signal

Maintains P-n-R Access



Why Modified Alternative 3

- Modified Alternative 3: Single Point Urban Interchange (SPUI), including SR 1 3rd Lane Widening and Newtown Road Ramps
- Modified Alternative 3 solves the project's critical traffic congestion issues the best by:
 - Significantly improving travel times on SR 1 and SR 273
 - Maintaining full access to SR 7 at the SR 1 / SR 273 Interchange
 - Removing one traffic signal on SR 273 to most effectively address future traffic growth

What is a SPUI?

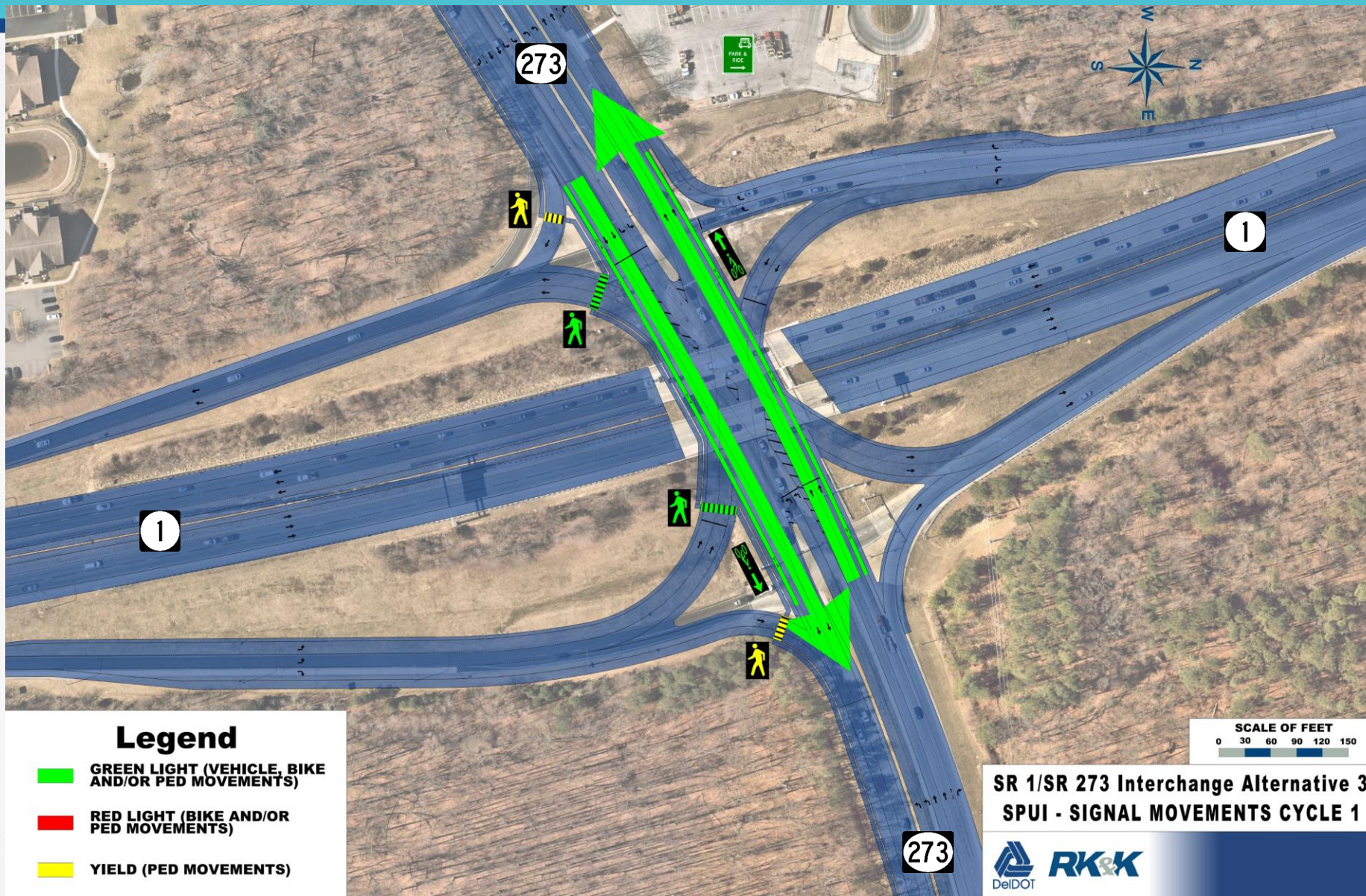
- The Single Point Urban Interchange (SPUI) is a grade-separated interchange design where all freeway ramps begin or end at a single signalized intersection on the arterial road
- Great solution for locations with limited right-of-way and/or locations with heavy left turn-traffic volumes to and from the freeway ramps
- Main Benefits:
 - Improved safety
 - Increased efficiency
 - Increased capacity
 - Fewer traffic signals

What is a SPUI?

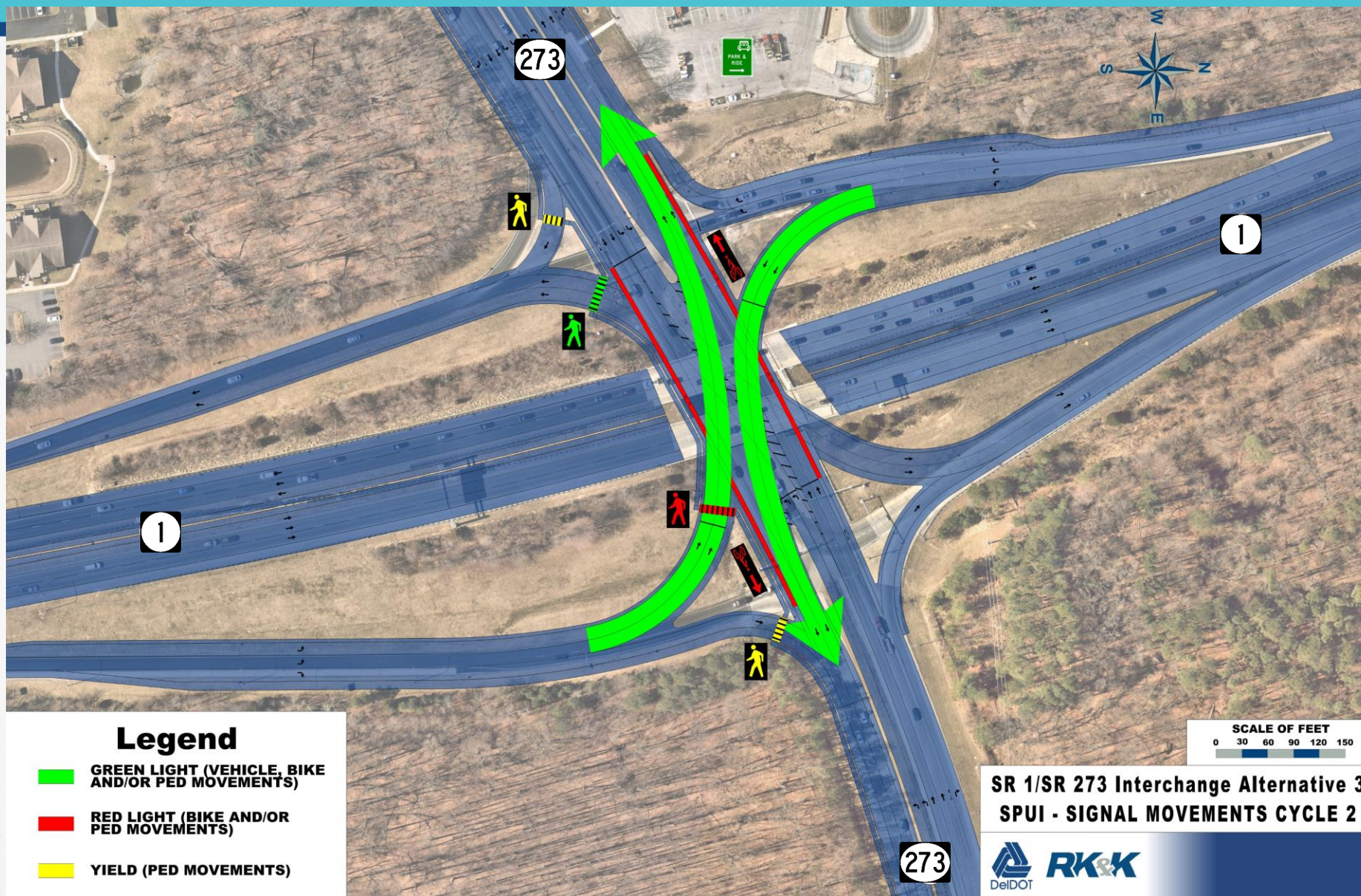


Missouri DOT SPUI video, produced by HNTB

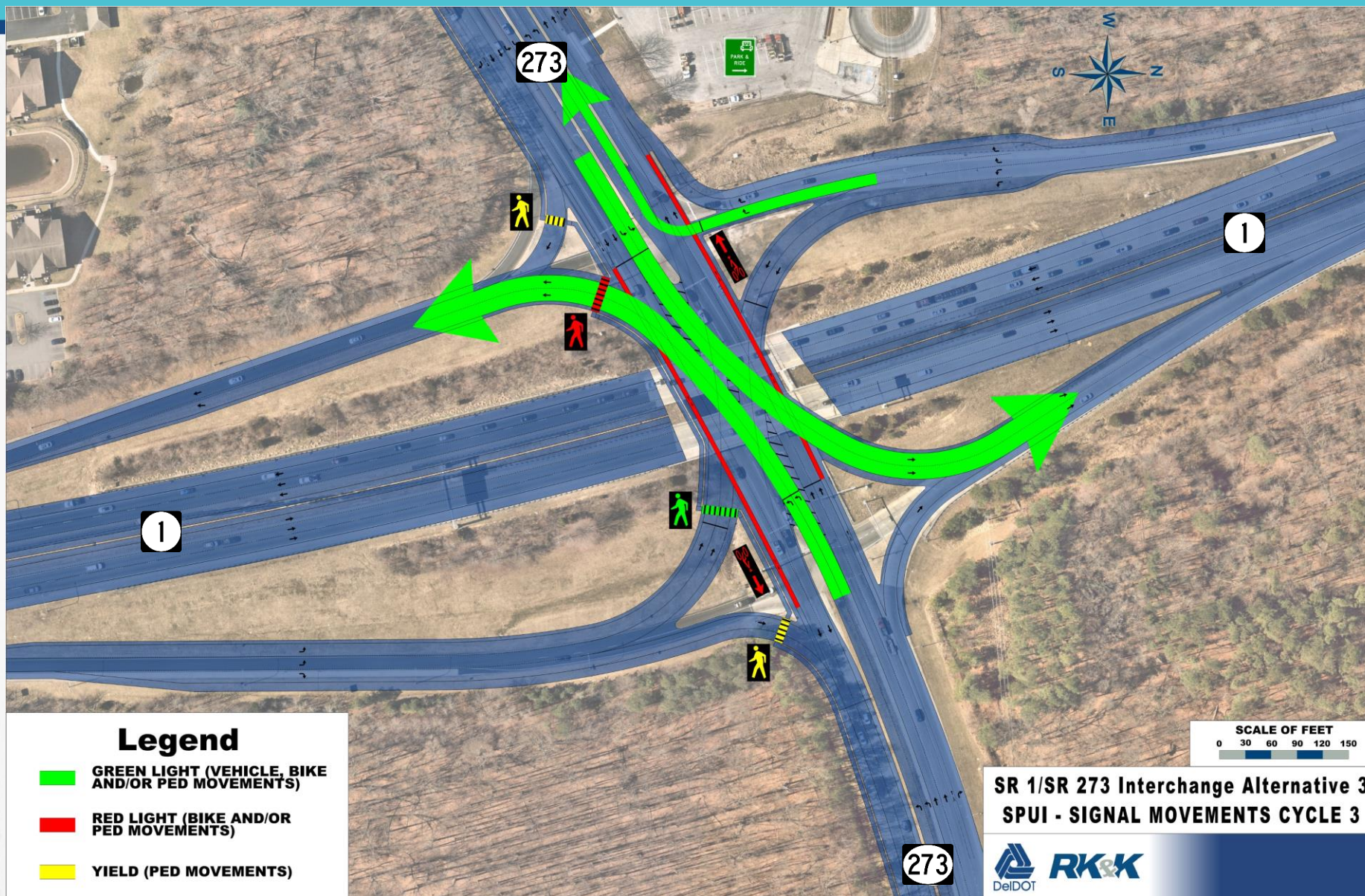
Pedestrian & Bicycle Improvements with RPA



Pedestrian & Bicycle Improvements with RPA



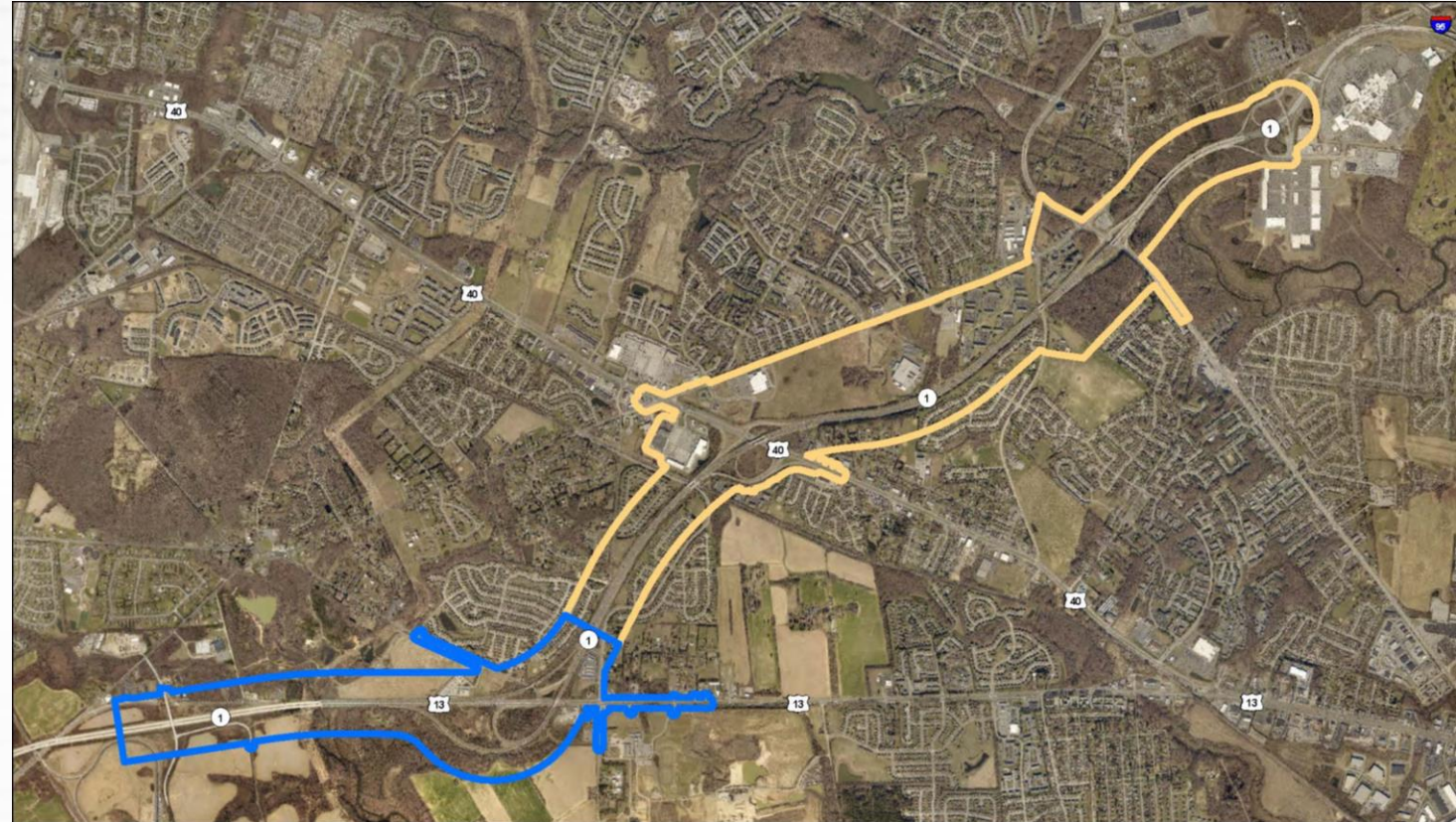
Pedestrian & Bicycle Improvements with RPA





- In August 2021, the Federal District Court vacated the Navigable Waters Protection Rule which defined Waters of the United States
- EPA and USACE have reverted to the pre-2015 regulatory regime to define Waters of the United States (based on the Supreme Court Cases of SWANCC and Rapanos)
- DeIDOT has updated the wetlands and waters delineated features to reflect current regulatory guidance and has re-calculated impacts



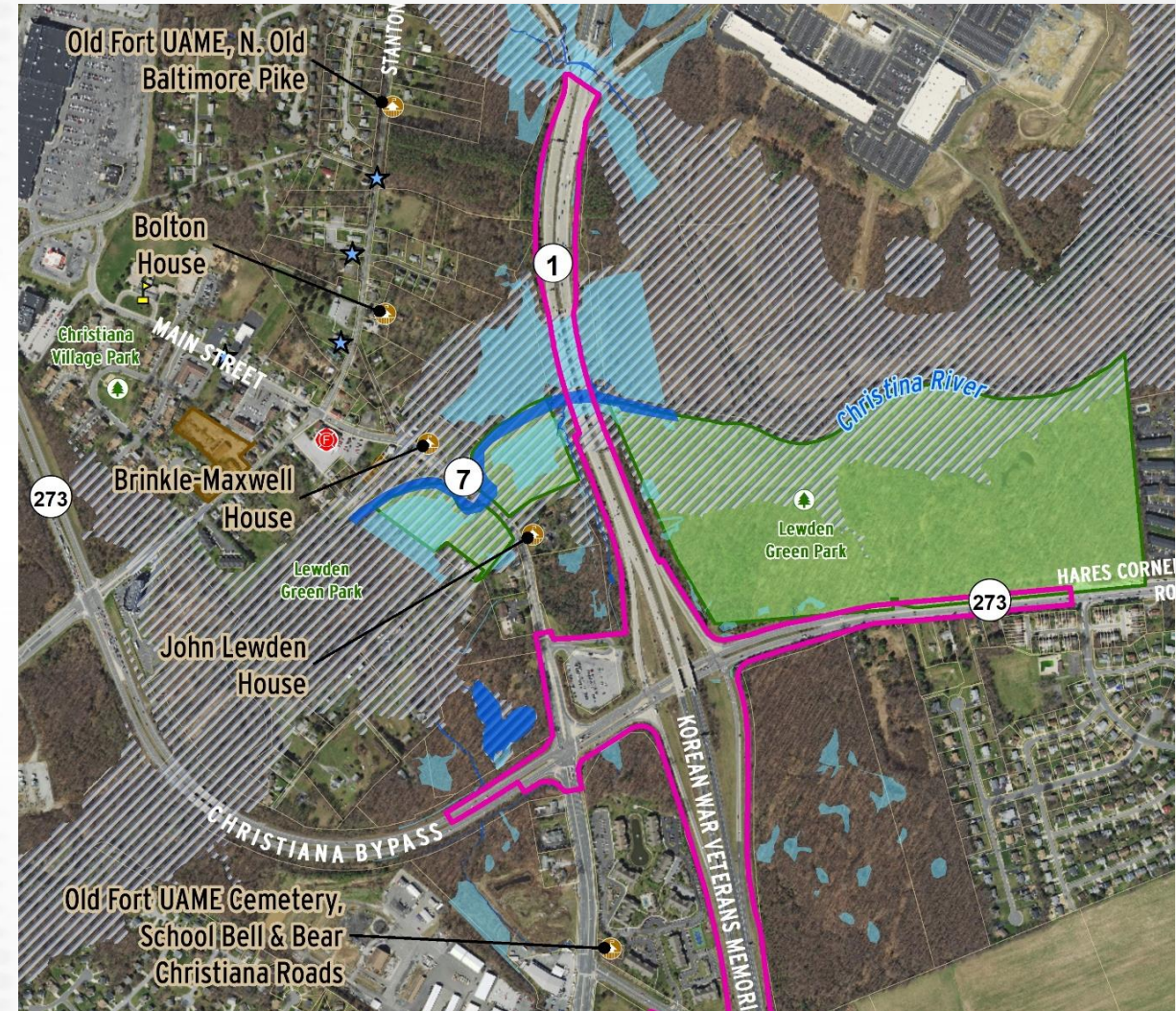
- Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects on historic properties of projects
- Originally initiated Section 106/Cultural Resources Review in 2012 for the 9-mile corridor
- Preliminary archaeological and Historic Architecture surveys conducted for entire corridor based on original concept
- Project re-initiated in 2020 for the current limits and Consulting Parties invited to participate



Legend

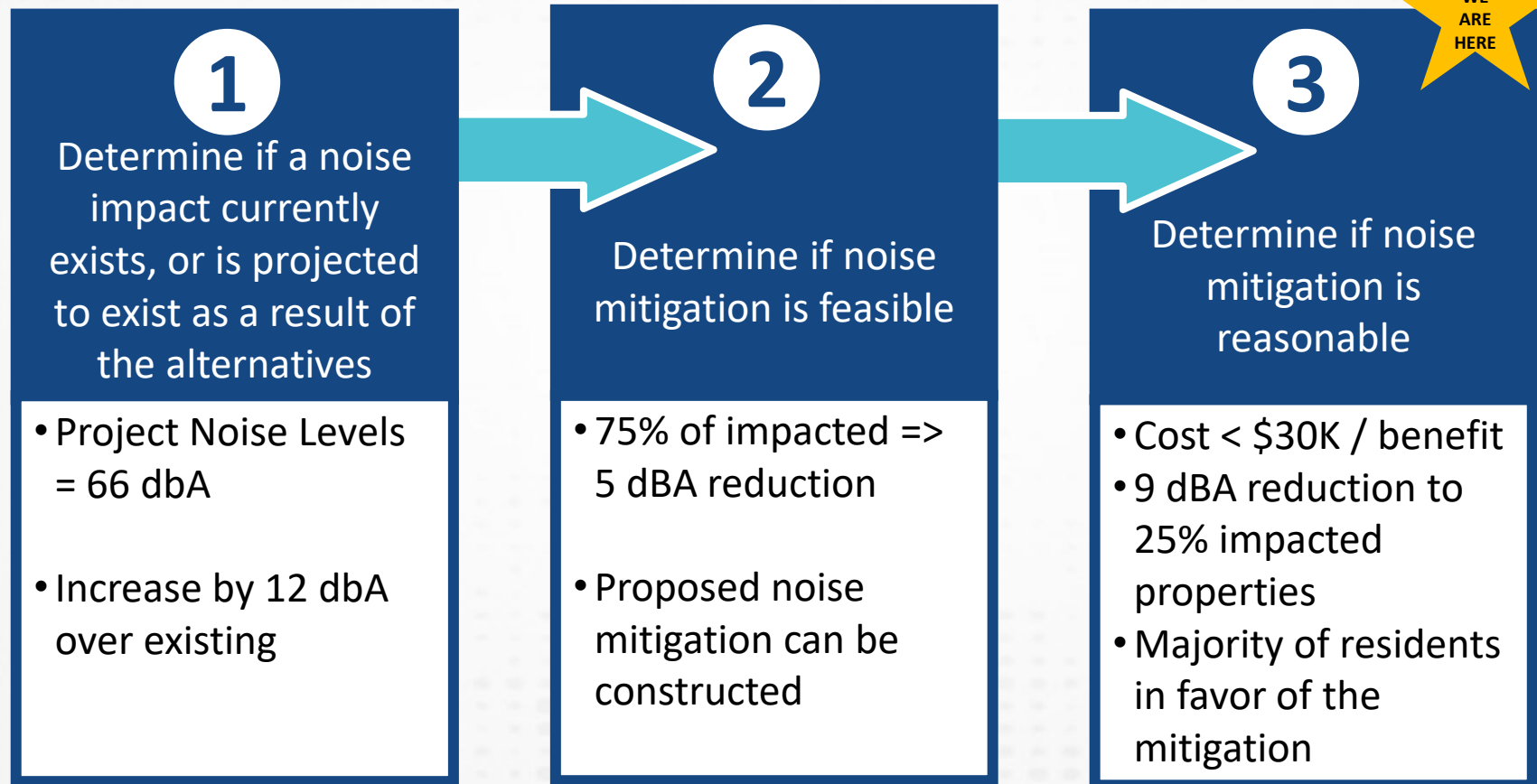
-  Area of Potential Effects – SR 1 from Road A to Tybouts Interchange
-  Area of Potential Effects – SR 1/Tybouts Interchange

- In addition to natural, cultural and noise, other resource analyses including:
 - Communities
 - Parks
 - Air Quality
 - Hazardous Materials
- Ongoing coordination and determination of potential effects and ways to mitigate for impacts from the Preferred Alternative



How are Noise Impacts Studied?

As part of NEPA, DeIDOT evaluates the need for noise mitigation when alternatives propose changes to the existing noise environment. The noise analysis involves three steps:

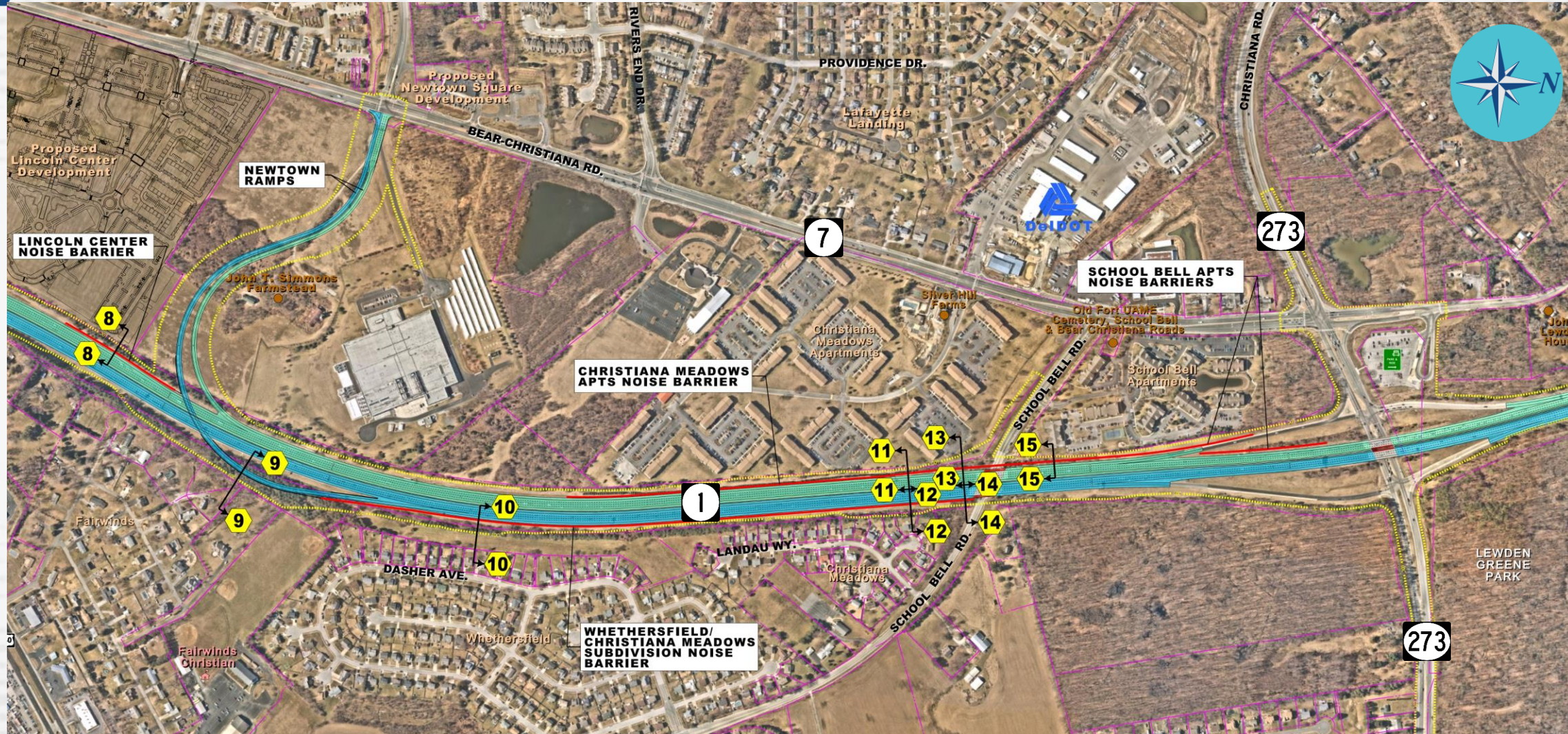


Noise Analysis Results

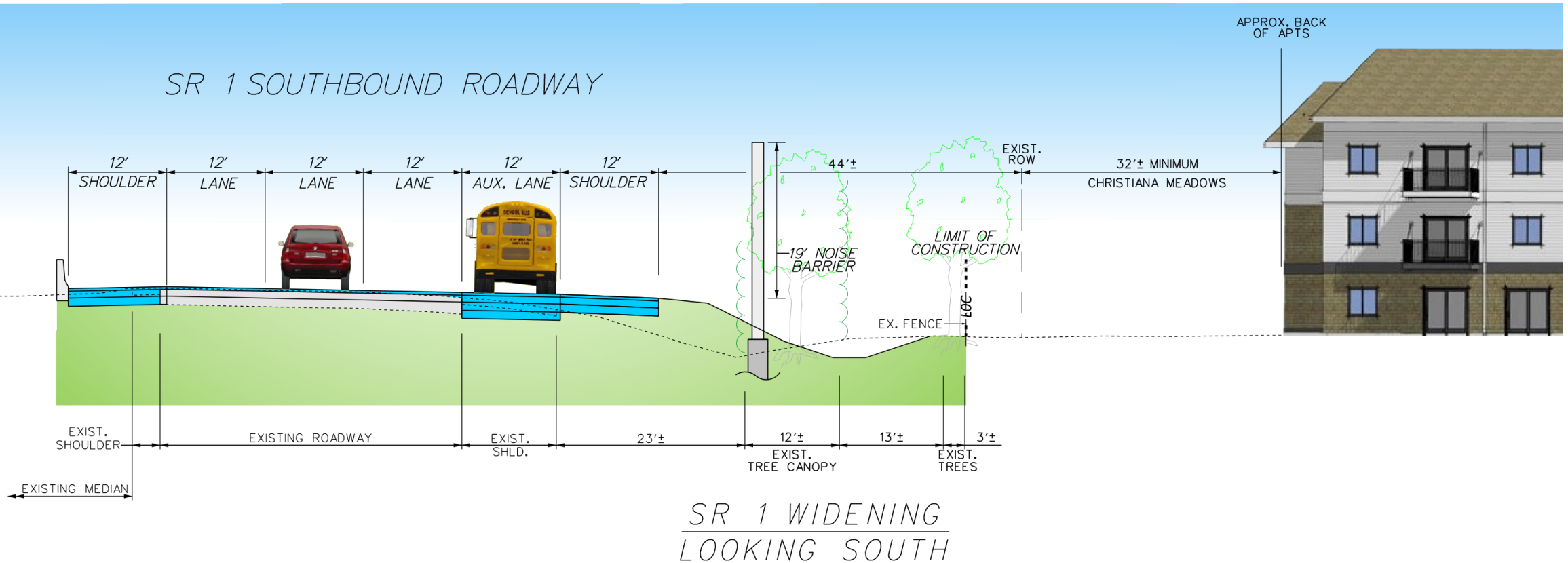
CNE	Community	Impacted Receptors	Barrier Height (feet)	Barrier Length (feet)	Insertion Loss (IL)	Barrier Cost (\$)	Impacted & Benefited Receptors	Non-Impacted & Benefited Receptors	Cost per Benefited Receptor ¹ (\$)	Cost Effective?
9	Springfields	54	22	4,007	8-14	4,672,162	47	33	58,402	No
10	Bear Crossing	22	20	2,012	8-11	2,132,720	14	4	118,484	No
11	Brandywine Woods Apt	26	22	2,296	8-13	2,677,136	22	12	78,739	No
12	Fairwinds	11	18	1,698	8-11	1,619,892	8	0	202,487	No
12b	Lincoln Center	68	22	681	8-14	794,046	35	18	14,982	Yes
13	Whethersfield/ Christiana Meadows	61	16	3,584	8-13	3,039,232	48	0	63,317	No
14	Christiana Meadows Apt	139	18-19.5 ²	4,440 ²	8-14	4,291,296	137	10	20,053	Yes
15	School Bell Apt	67			8-15		67	0		
13/14/15	Whethersfield/ Christiana Meadows, Christiana Meadows Apt, School Bell Apt	268	16-19.5	8,024	8-15	7,330,528	252	10	27,979	Yes
Notes: 1. Cost per benefit is based upon \$53/SF unit cost and is applied to all benefited receptors. 2. CNEs 14 and 15 share the same barrier system since they are close enough in proximity that individual barriers would overlap.										

- Proposed Noise Barrier Locations (meets Feasible and Reasonable criteria):
 - School Bell Apartments
 - Christiana Meadows Apartments
 - Christiana Meadows Subdivision
 - Whethersfield Subdivision
 - Lincoln Center

Potential Noise Barrier Locations



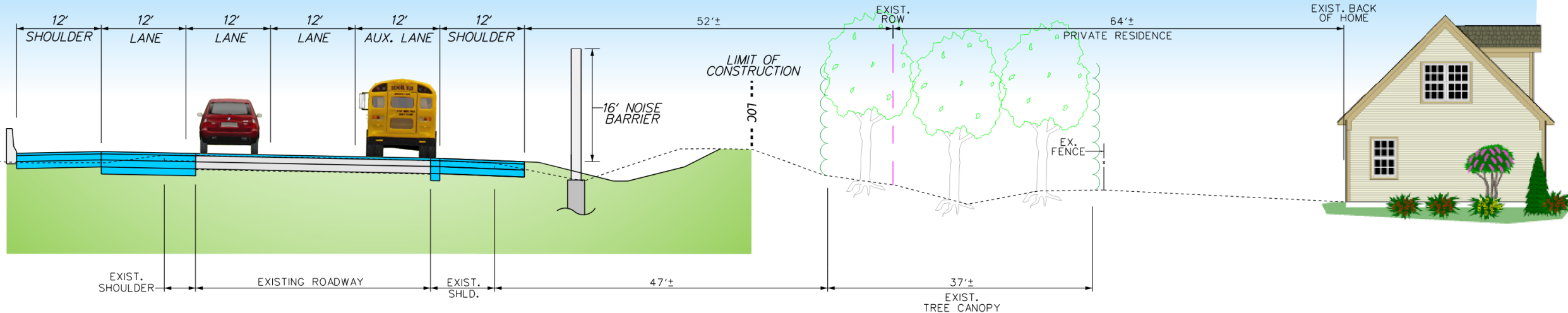
CHRISTIANA MEADOWS APARTMENTS - EXAMPLE



CHRISTIANA MEADOWS SUBDIVISION - EXAMPLE



SR 1 NORTHBOUND ROADWAY

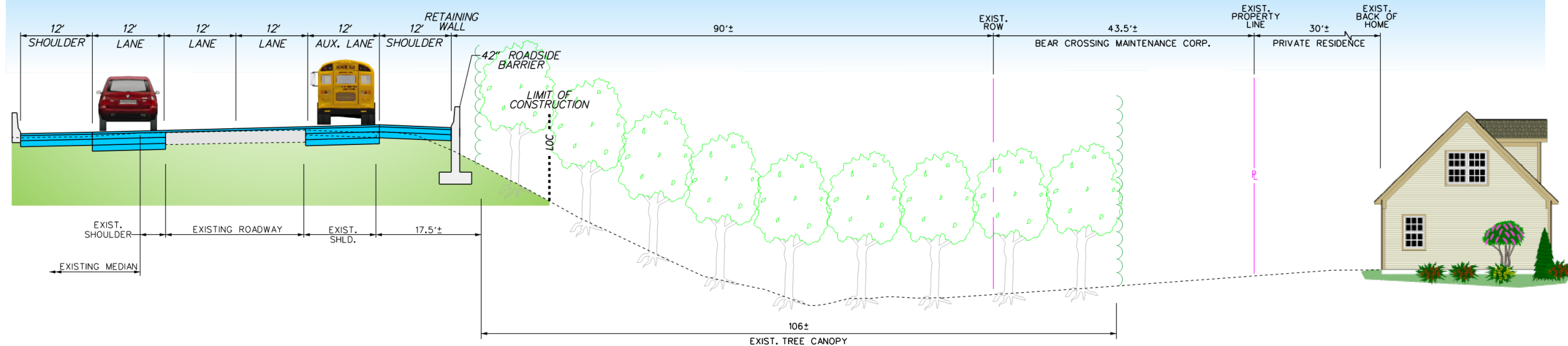


SR 1 WIDENING
LOOKING NORTH

- Visual Mitigation Possibilities in Other Locations (areas that do not meet feasible and reasonable noise barrier criteria):
 - Retaining walls with road barrier to preserve existing slope vegetation/berms
 - Enhance existing berms where right-of-way allows
 - Add fencing/screening where feasible

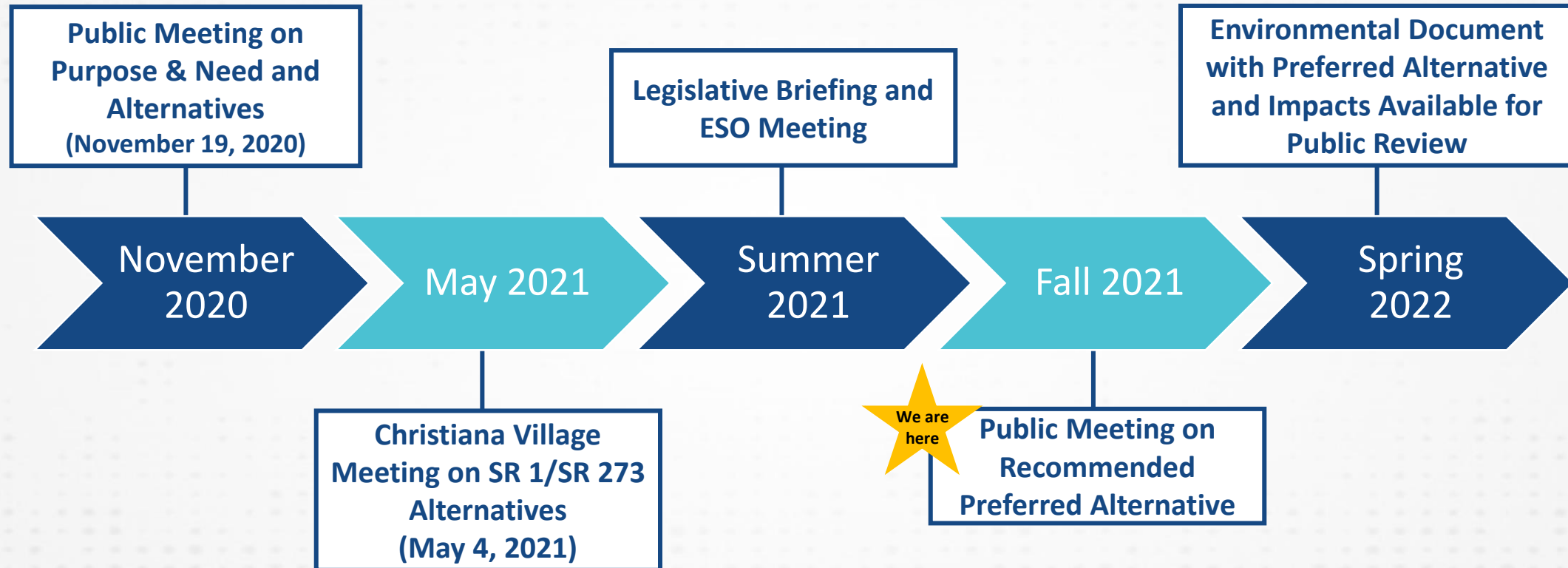
BEAR CROSSING NORTH - EXAMPLE

SR 1 SOUTHBOUND ROADWAY



SR 1 WIDENING
LOOKING SOUTH

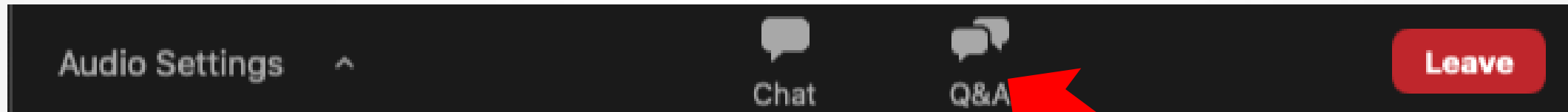
Schedule and Next Steps



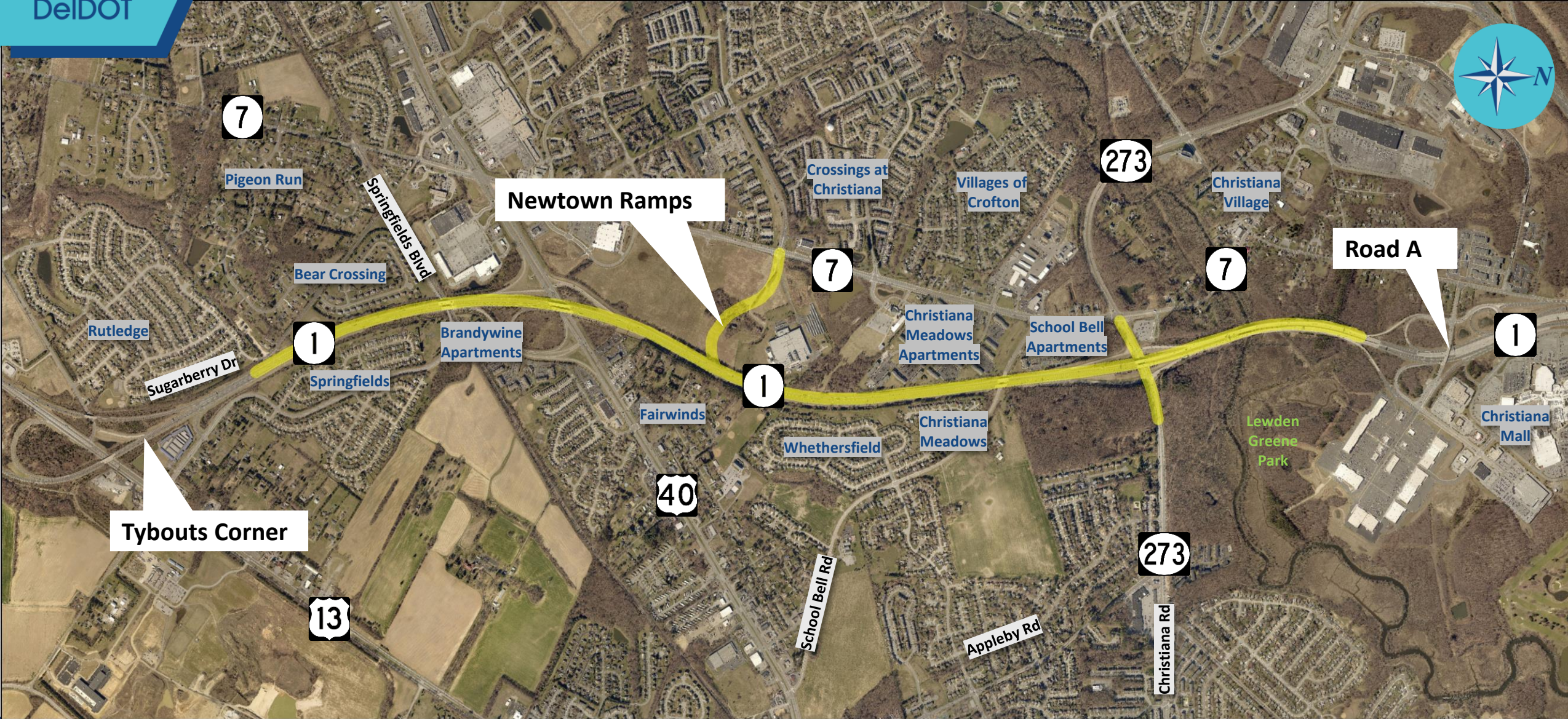


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